

ART 34 AMDT

35

Claims

1. A DNA construct comprising a transcriptional regulatory sequence operatively linked to a heterologous gene of interest wherein the transcriptional regulatory sequence comprises a transcriptional regulatory polynucleotide which is:
  1. the eIF4A gene promoter having the sequence as set forth in sequence ID NO. 38, or
  2. a fragment of sequence ID No.38 wherein the fragment retains the biological characteristics of the eIF4A promoter, or
  3. a polynucleotide that is hybridisable to the eIF4a gene promoter or complementary polynucleotide thereto under stringent hybridisation conditions and that retains the transcriptional regulatory function of the eIF4A promoter.
2. A construct according to claim 1 wherein the transcriptional regulatory sequence further comprises
  1. at least one eIF4A intron,
  2. a fragment of the intron, said fragment is at least 15 nucleotides long and retains the transcriptional regulatory function of the intron; or
  3. A polynucleotide that is hybridisable to the intron or its complementary nucleotide having the transcriptional regulatory function of the intron.
3. A construct according to claim 2 wherein the eIF4A intron is intron 1, 2,3,5,6,7 or 9.
4. A construct according to claim 3 wherein the intron is intron 1.
5. A construct according to any one of claims 2 to 4 wherein the transcriptional regulatory sequence comprises:
  1. at least one further eIF4A1 gene intron; or

ART 34 AMDT

36

2. a fragment of said second intron which is at least 15 nucleotides long and retains the transcriptional regulatory function of the intron.
6. A construct according to any preceding claim wherein the eIF4A1 gene promoter fragment is selected from the group consisting of; -526EIF, -371EIF, -271EIF, -193EIF, -120EIF, -98EIF, -69EIF and -40EIF.
7. A construct according to any one of claims 2 to 6 wherein the regulatory sequence comprises one or more of the sequences as set forth in SEQ.I.D. NO: 31 to 37.
8. A construct according to any preceding claim wherein the construct is a phage, plasmid, virus, minichromosome or transposon.
9. Host cell comprising a construct as claimed in any one of the preceding claims.
10. A process for the production of a protein which comprises the step of culturing a host cell according to claim 9 and optionally recovering the protein.
11. A pharmaceutical composition comprising a construct according to any one of claims 1 to 8.
12. A method of treating a disease or disorder comprising the step of administering a therapeutically effective amount of the construct as claimed in any one of claims 1 to 8 or the composition as claimed in claim 11.
13. A construct as claimed in any one of claims 1 to 8 for use in therapy.
14. Use of a construct as claimed in any one of claims 1 to 8 for the manufacture of a vaccine.
15. Use according to claim 14 wherein the construct is administered by particle mediated DNA delivery.
16. Use of a construct as claimed in any one of claims 1 to 8 for the manufacture of a medicament for obtaining an immune response which is biased to Th1.

APT 34 ANDT

## 36a

17. An isolated polynucleotide having a sequence as set forth in SEQ.I.D.NO:31, 32, 33, 34, 35, 36 or 37, fragment thereof or polynucleotide hybridisable thereto.
18. An isolated polynucleotide having a sequence as set forth in SEQ.I.D.NO:40 at positions -2102 and -1082, fragment thereof or polynucleotide hybridisable thereto.
19. An isolated polynucleotide having a sequence as set forth in SEQ.I.D.NO:40 at positions -1107 to -505, fragment thereof or polynucleotide hybridisable thereto.